



MV Series Hydraulic Motor

MV series motor adapt the advanced Geroler gear set designed with disc distribution flow and high pressure. The unit can be supplied with a variety of shaft and flange options as per the data sheets specify.



HYDRA PART	MOTOR SERIES	CAPACITY	FLANGE TYPE	SHAFT TYPE	PORT
X	X	X	X	X	X

CODE SYSTEMS

Characteristic features:

- * Advanced manufacturing devices for the Geroler gear set, which use low pressure of start-up, provide smooth and reliable operation and high efficiency.
- * The output shaft adapts in tapered roller bearings that permit high axial and radial forces. The case can offer capacities of high pressure and high torque in the wide of applications.
- * Advanced design in disc distribution flow, which can automatically compensate in operating with high volume efficiency and long life, provide smooth and reliable operation.

Main Specification

Type		MV 315	MV 400	MV 500	MV 630	MV 800	MV 1000
Geometric displacement (cm ³ /rev.)		333	419	518	666	801	990
Max. speed (rpm)	cont.	510	500	400	320	250	200
	int.	630	600	480	380	300	240
Max. torque (N•m)	cont.	920	1180	1460	1660	1880	2015
	int.	1110	1410	1760	1940	2110	2280
	peak	1290	1640	2050	2210	2470	2400
Max. output (kW)	cont.	38.0	47.0	47.0	40.0	33.0	28.6
	int.	46.0	56.0	56.0	56.0	44.0	40.0
Max. pressure drop (MPa)	cont.	20	20	20	18	16	14
	int.	24	24	24	21	18	16
	peak	28	28	28	24	21	18
Max. flow (L/min)	cont.	160	200	200	200	200	200
	int.	200	240	240	240	240	240
Weight (kg)		31.8	32.6	33.5	34.9	36.5	38.6

- * Continuous pressure: Max. value of operating motor continuously.
- * Intermittent pressure: Max. value of operating motor in 6 seconds per minute.
- * Peak pressure: Max. value of operating motor in 0.6 second per minute.



Performance Data

MV 315 [333cm³/rev.]

Pressure (MPa)		Max.cont.		Max.int.		
3.5	7	10	14	18	20	24

Flow (L/min)	Pressure (MPa)		Max.cont.		Max.int.		
	3.5	7	10	14	18	20	24
10	140	294	440	610	742	845	1000
	26	24	23	22	20	17	14
20	153	314	466	636	787	895	1070
	55	54	53	52	51	48	44
50	149	312	465	654	815	935	1112
	145	144	142	140	137	133	127
75	143	304	458	642	816	940	1119
	220	218	215	211	207	202	195
100	136	297	452	636	810	936	1108
	294	292	290	287	283	278	270
125	123	286	442	626	799	921	1093
	368	366	364	361	357	352	345
150	114	275	435	615	788	906	1078
	445	443	441	437	430	422	410
160	107	268	430	608	780	895	1070
	475	473	470	466	460	452	439
200	82	249	412	593	758	871	1047
	596	594	590	584	576	565	544

MV 400 [419cm³/rev.]

Pressure (MPa)		Max.cont.		Max.int.		
3.5	7	10	14	18	20	24

Flow (L/min)	Pressure (MPa)		Max.cont.		Max.int.		
	3.5	7	10	14	18	20	24
10	183	385	568	776	968	1101	1292
	20	20	19	18	17	16	14
20	196	398	590	815	1010	1152	1346
	44	44	43	42	40	39	37
50	200	402	603	842	1040	1186	1430
	114	113	113	112	110	108	103
75	195	394	596	838	1043	1188	1432
	175	173	170	166	163	1579	152
100	172	385	593	827	1036	1184	1425
	236	235	233	231	227	223	215
125	167	374	583	816	1021	1177	1413
	296	294	291	288	282	275	268
150	158	361	559	801	1008	1165	1390
	355	354	352	349	344	335	324
175	143	346	553	784	989	1145	1377
	416	414	411	407	403	396	388
200	118	331	536	770	969	1128	1356
	475	473	469	463	455	448	439
240	82	301	506	740	943	1104	1332
	571	569	565	548	539	530	520

MV 500 [518cm³/rev.]

Pressure (MPa)		Max.cont.		Max.int.		
3.5	7	10	14	18	20	24

Flow (L/min)	Pressure (MPa)		Max.cont.		Max.int.		
	3.5	7	10	14	18	20	24
10	242	468	696	959	1190	1353	1607
	17	17	16	16	15	13	11
20	245	501	738	1003	1232	1394	1658
	36	35	35	34	33	32	29
50	240	500	758	1025	1270	1449	1743
	93	92	91	90	88	85	80
75	233	498	752	1030	1288	1475	1766
	140	139	137	135	132	127	120
100	228	491	748	1026	1289	1472	1760
	189	187	185	182	178	173	166
125	220	483	742	1014	1280	1460	1745
	237	236	234	231	227	223	216
150	201	465	723	1008	1250	1429	1736
	287	286	284	281	276	270	260
175	182	446	711	997	1238	1406	1715
	335	334	332	329	325	320	310
200	161	423	676	974	1218	1385	1697
	384	383	381	378	374	366	354
240	120	378	622	921	1172	1340	1650
	461	459	457	454	450	444	432

MV 630 [666cm³/rev.]

Pressure (MPa)		Max.cont.		Max.int.		
3.5	6	9	12	15	18	21

Flow (L/min)	Pressure (MPa)		Max.cont.		Max.int.		
	3.5	6	9	12	15	18	21
10	280	522	812	1100	1268	1549	1784
	14	13	13	12	12	11	10
20	288	552	839	1101	1315	1607	1864
	28	28	27	27	26	24	22
50	289	555	868	1137	1364	1682	1956
	72	72	71	69	68	66	62
75	270	548	863	1120	1352	1680	1964
	109	108	106	104	102	99	94
100	264	538	856	1093	1350	1674	1965
	146	145	143	141	138	135	130
125	251	516	837	1071	1336	1659	1950
	184	183	181	179	177	173	168
150	240	495	817	1063	1330	1650	1928
	221	220	219	217	215	212	205
175	210	485	796	1052	1300	1636	1908
	259	258	257	254	250	246	241
200	182	469	751	1018	1280	1611	1883
	297	297	295	293	290	284	273
240	130	416	712	978	1237	1563	1835
	358	357	355	351	346	340	332

Torque (N*m) 1340
Speed (rpm) 444

cont.
int.



Performance Data

MV 800 [801cm³/rev.]

Pressure (MPa)		Max.cont.		Max.int.		
2.5	5	8	10	13	16	18

Flow (L/min)	2.5		5		8		10		13		16		18	
	cont.	int.	cont.	int.	cont.	int.	cont.	int.	cont.	int.	cont.	int.	cont.	int.
10	278	11	565	10	830	10	1095	9	1405	8	1712	8	1915	7
20	282	23	571	22	845	22	1150	21	1456	20	1783	18	1994	16
50	288	60	582	59	856	57	1162	56	1463	54	1790	52	2001	48
75	269	91	580	90	855	89	1165	87	1465	84	1786	81	1993	77
100	251	122	566	121	840	120	1140	118	1448	115	1767	111	1985	105
125	242	153	535	152	824	150	1118	147	1427	143	1739	139	1976	133
150	236	185	526	183	808	181	1102	178	1401	174	1714	169	1959	163
175	215	216	504	214	793	212	1079	209	1377	206	1698	203	1936	196
Max.cont. 200	197	247	468	245	765	243	1063	240	1362	237	1681	232	1913	225
Max.int. 240	118	297	388	296	713	295	1020	293	1318	288	1637	283	1838	277

cont.
 int.

MV 1000 [990cm³/rev.]

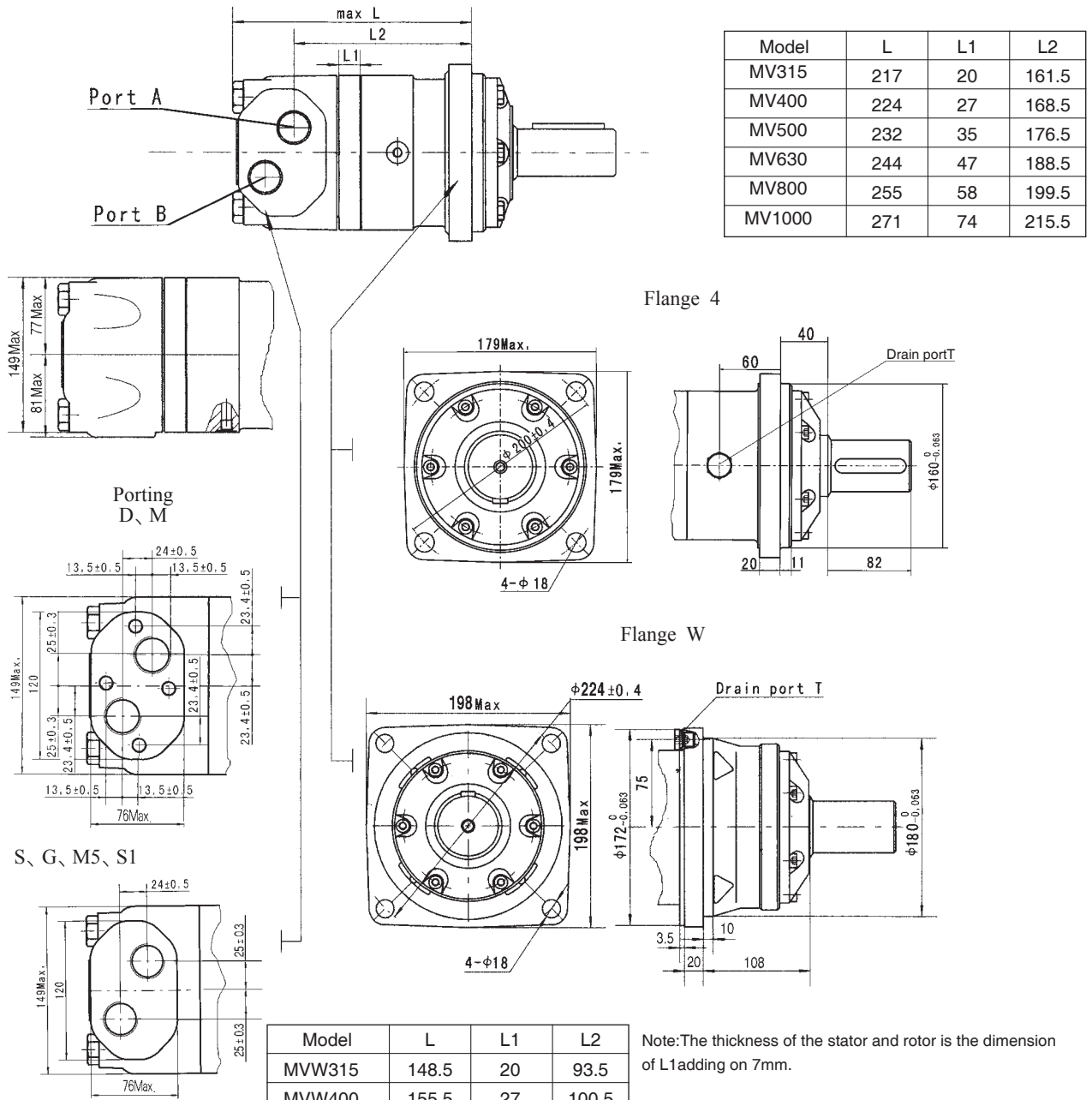
Pressure (MPa)		Max.cont.		Max.int.	
2.5	5	7	10	14	16

Flow (L/min)	2.5		5		7		10		14		16	
	cont.	int.	cont.	int.	cont.	int.	cont.	int.	cont.	int.	cont.	int.
10	312	9	640	9	971	9	1400	8	1978	7	2259	6
20	320	28	648	27	978	26	1410	25	1980	23	2270	21
50	326	47	655	46	992	45	1422	43	2015	41	2280	38
75	318	72	642	71	987	70	1425	68	2003	66	2276	63
100	309	98	634	97	983	95	1418	93	1994	90	2243	86
125	303	123	624	122	975	120	1409	117	1988	114	2224	110
150	278	149	602	148	961	146	1368	144	1963	140	2208	133
175	264	174	580	172	946	170	1338	166	1925	162	2159	155
Max.cont. 200	230	199	556	196	912	193	1300	190	1891	185	2105	178
Max.int. 240	166	240	513	237	867	233	1267	229	1825	225	2034	218

Torque (N•m) 1825
 Speed (rpm) 225



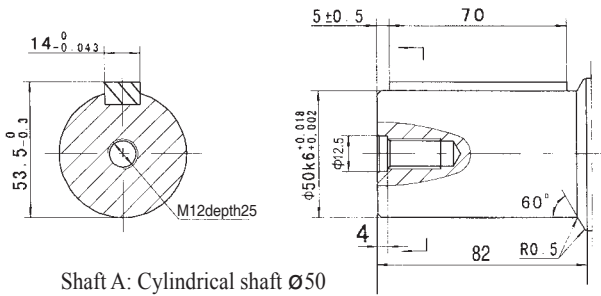
MV DIMINSIONS AND MOUNTING DATA



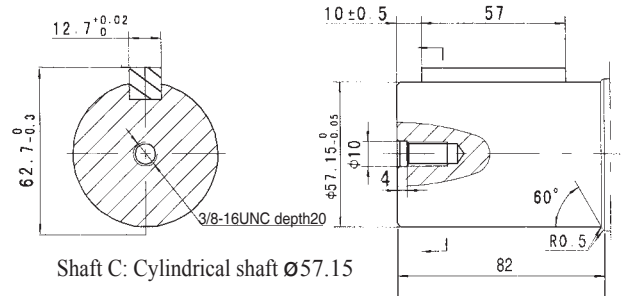
Content	Code					
	D (depth)	M (depth)	S (depth)	G (depth)	M5 (depth)	S1 (depth)
P(A,B)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)	G1 (18)	M33 x 2 (18)	1-5/16-12UN(18)
T	G1/4 (12)	M14 x 1.5 (12)	9/16-18UNF(12)	G1/4 (12)	M14 x 1.5 (12)	7/16-20UNF(12)
C	4-M12 (10)	4-M12 (10)	--	--	--	--



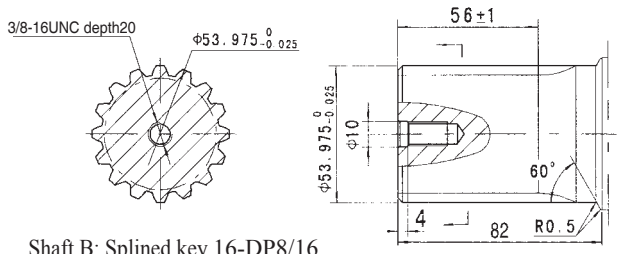
MV SHAFT EXTENSIONS DIMENSIONS DATA



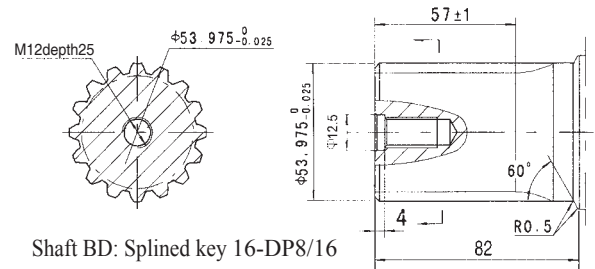
Shaft A: Cylindrical shaft Ø50
Parallel key 14x9x70



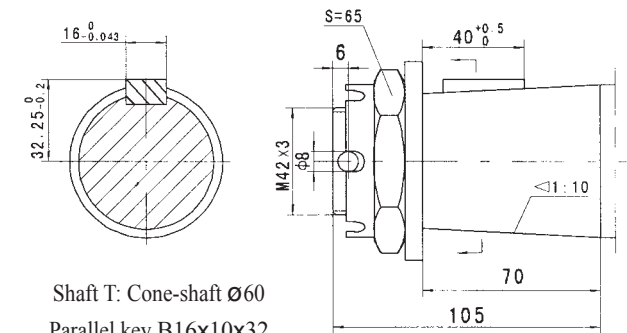
Shaft C: Cylindrical shaft Ø57.15
Parallel key 12.7x12.7x57



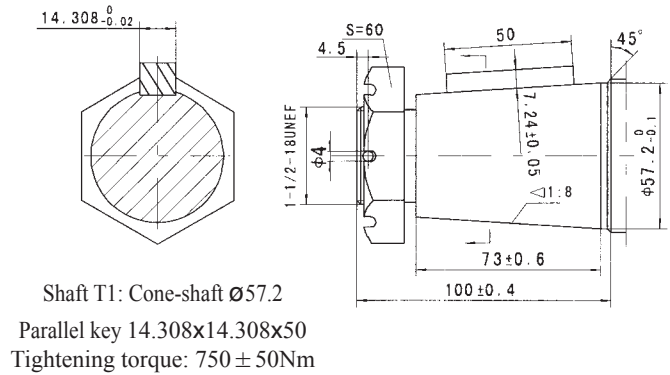
Shaft B: Splined key 16-DP8/16



Shaft BD: Splined key 16-DP8/16



Shaft T: Cone-shaft Ø60
Parallel key B16x10x32
Tightening torque: 750 ± 50Nm

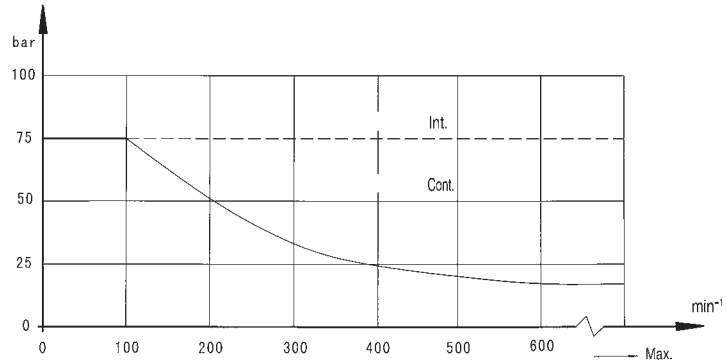
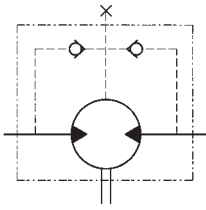


Shaft T1: Cone-shaft Ø57.2
Parallel key 14.308x14.308x50
Tightening torque: 750 ± 50Nm



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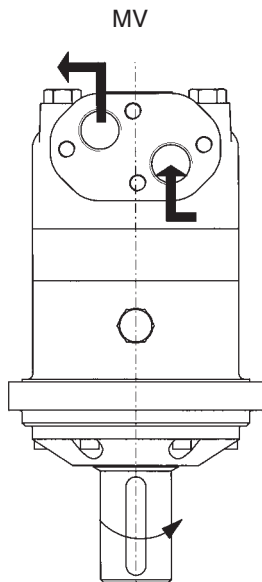
Permissible shaft seal pressure



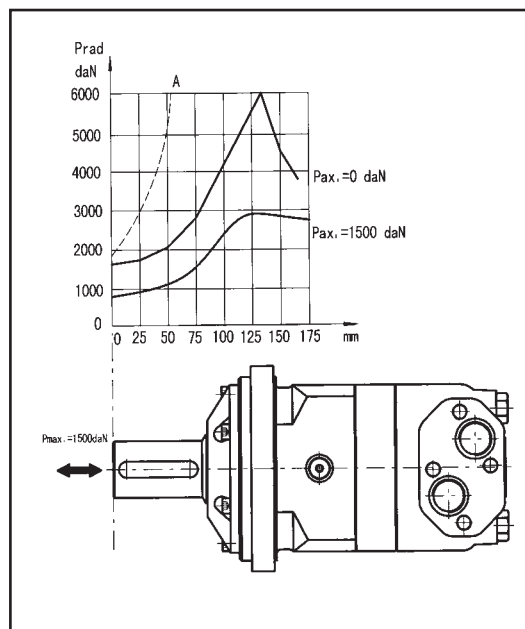
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. When applications use the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard direction of shaft rotation: Standard

When facing shaft end of motor, shaft to rotate:
 Clockwise when port "A" is pressurized.
 Counter-clockwise port "B" is pressurized.



Axial and Radial forces



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.



Order Information

1	2	3	4	5	6	7	8
MV							

Pos.1	2	3	4	5	6	7	8
Code	Displacement	Flange	Output shaft	Port and drain port	Rotation direction	Paint	Unusually function
	315		A Shaft Ø50 , parallel key 14 × 9 × 70	D G1 Manifold 4 × M12, G1/4			
	400		BD Shaft Ø53.975, splined key 16-DP8/16	M M33 × 2 Manifold 4 × M12, M14 × 1.5			
	500	4 4-Ø18 Square-flange Ø200, pilot Ø160 × 11	B Shaft Ø53.975, splined key 16-DP8/16	S 1-5/16-12UN, 9/16-18UNF		00 No paint	
	630	W 4-Ø18 Wheel-flange Ø224, pilot Ø180 × 10	C Shaft Ø57.15, parallel key 12.7 × 12.7 × 57.15	G G1, G1/4		Omit Blue	
Omit	800		T Cone shaft Ø60, parallel key B16 × 10 × 32	M5 M33 × 2, M14 × 1.5		Black	
	1000		T1 Cone shaft Ø60, parallel key 14.308 × 14.308 × 50.8	S1 1-5/16-12UN(18), 7/16-20UNF(12)		Silver grey	Standard

Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.